

# SEPARATION UNIT

## SERIES SKx100



SKP100



SKS100



SKC100

### PRODUCT DESCRIPTION

The Separation units are used in systems with one or two heat sources, where hydraulic system separation (separation of fluids in different sub systems) is needed.

ESBE SKP100 is intended for installation where a heat source /solid fuel boiler, such as water fireplace, wood stove and pellet boiler, is working together with a gas or oil boiler in a heating system. SKS100 is dedicated for potable water preparation with solid fuel heat sources, such as water fireplaces, wood stoves and pellet boilers. The SKC100 has a combined function of SKP100 and SKS100.

Hydraulic system separation (separation of multiple heat-sources into different sub systems) is required by Italian INAIL regulations. The hydraulic system separation is necessary when the nominal power sum of the two heating generators working in the same heating system exceeds 35kW.

Depending on version, the units are equipped with plate heat exchanger, pump, diverting valve and check valve. The Separation Units can be equipped with a controller CSK211 (available as accessory) for easy control and automatization of the heat supply.

The units are prepared for wall hanging mounting.

### VERSIONS

#### ESBE Separation Unit SKP100

The SKP100 is dedicated to separate two heating devices in a hybrid system.

The SKP100 comes with 30kW plate heat exchanger, a Wilo PARA 8m pump and check valve.

The unit can be equipped with a controller CSK211 (available as accessory) to control the pump and to switch off the gas or oil boiler in case of solid fuel boiler usage. In case the solid fuel heating source isn't equipped with a pump, the SKP100 is prepared for installation of a secondary pump (available as accessory).

#### ESBE Separation Unit SKS100

The SKS100 is dedicated for potable water preparation with solid fuel heating sources, such as water fireplaces, wood stoves and pellet boilers.

The SKS100 comes with a 20kW plate heat exchanger and diverting valve. It can deliver 12 l/min of potable water at 45°C.

The unit can be equipped with a controller CSK211 (available as accessory) to switch on the pump if the heating source for potable hot water preparation has reached working temperature. In case the solid fuel heating source isn't equipped with a pump, the SKS100 is prepared for installation of a secondary pump (available as accessory).

For anti-scalding protection, ESBE is recommending one of the thermostatic mixing valves available in ESBE product portfolio.

### ESBE Separation Unit SKC100

The SKC100 is dedicated to separate two heating devices in a hybrid system, as well as potable water preparation.

The SKC100 comes with a 30kW plate heat exchanger, a Wilo PARA 8m pump, check valve, diverting valve and 20kW plate heat exchanger for potable water preparation. The unit can deliver 12 l/min of potable hot water with a temperature of 45°C.

The unit can be equipped with a controller CSK211 (available as accessory) to switch on the pump if the heating source for potable hot water preparation has reached working temperature, as well as turning off the gas or oil boiler, in case of solid fuel boiler usage. In case the solid fuel heating source isn't equipped with a pump, the SKC111 is prepared for installation of a secondary pump (available as accessory).

For anti-scalding protection, ESBE is recommending one of the thermostatic mixing valves available in ESBE product portfolio.

### SERVICE AND MAINTENANCE

The Separation Units does not require any specific maintenance under normal conditions.

### KEY BENEFITS

- Preassembled and pressure tested unit
- Easy and quick installation
- Potable water preparation (SKS100 & SKC100)
- Flexible design with the possibility of upgrade
- Dedicated unit controller
- Ensures the system compliance with INAIL

### RELATED ACCESSORIES

Art. No.

62100200 \_\_\_\_\_ CSK211 Separation Units Controller

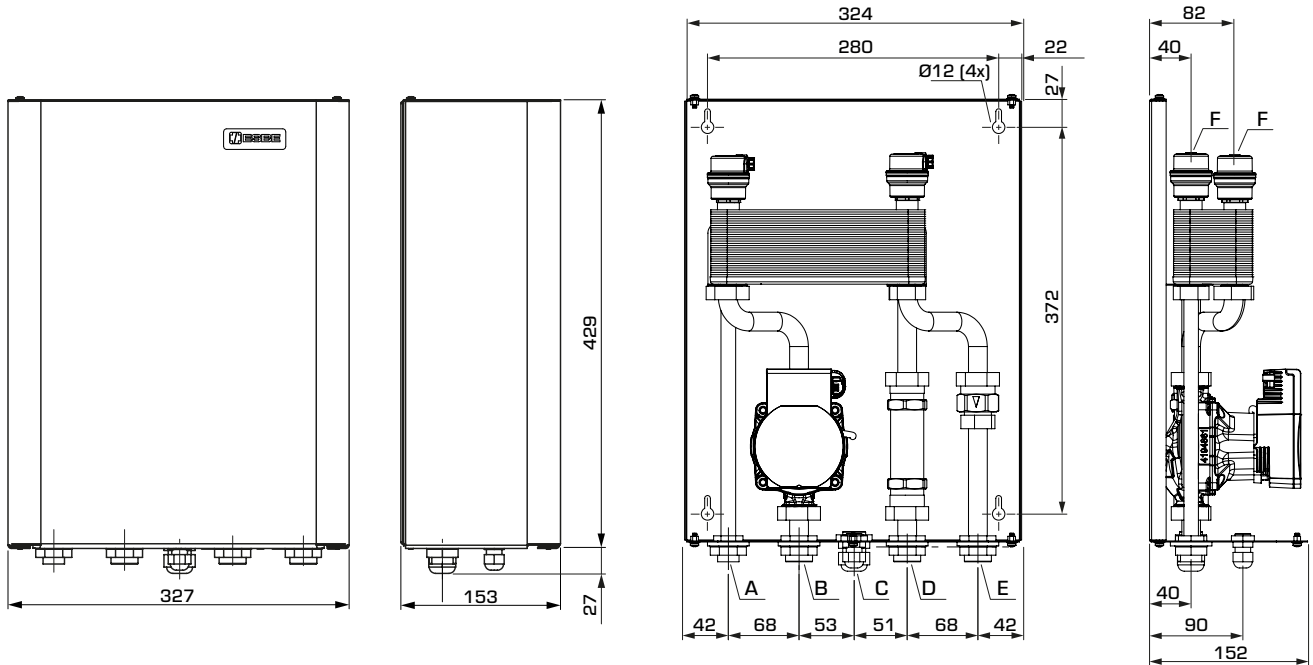
62100400 \_\_\_\_\_ PSK111 Pump Wilo PARA 15-130/8-75/SC

# SEPARATION UNIT SERIES SKx100

Connections,

- A - Return, primary side \_\_\_\_\_ G 3/4"
- B - Return, secondary side \_\_\_\_\_ G 3/4"
- C - Cable leading
- D - Supply, primary side \_\_\_\_\_ G 3/4"
- E - Supply, secondary side \_\_\_\_\_ G 3/4"
- F - Air vent valve (2x)

## PRODUCT ASSORTMENT



## SERIES SKP100

Art. No.	Reference	Pump	Connections A, B, D, E	Weight [kg]	Note
62000100	SKP111	Wilo Para 15/8-75	G 3/4"	8,2	

## TECHNICAL DATA

Visit [esbe.eu](http://esbe.eu) for further detailed information.

### Separation unit SKP100, in general:

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +90°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Max. Working pressure: \_\_\_\_\_ 0,6 MPa (6 bar)  
 Plate heat exchanger (heating): \_\_\_\_\_ 30 kW

Connections, \_\_\_\_\_ External thread (G), ISO 228/1  
 Media: \_\_\_\_\_ Heating water, in accordance with VDI2035

### Conformities and certificates

LVD 2014/35/EU  
 EMC 2014/30/EU  
 RoHS3 2015/863/EU  
 ErP 2009/125/EU

SI 2016 No. 1101  
 SI 2016 No. 1091  
 SI 2012 No. 3032  
 SI 2010 No. 2617

PED 2014/68/EU, article 4.3 / SI 2016 No. 1105 (UK)

### The integrated circulation pump, SKP100:

Pump reference: \_\_\_\_\_ Wilo PARA 15-130/8-75/SC  
 Pressure class: \_\_\_\_\_ PN 10  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Power consumption: \_\_\_\_\_ 10-75 W  
 Enclosure rating: \_\_\_\_\_ IP X4D  
 Insulation class: \_\_\_\_\_ F  
 EEI (Energy Efficiency Index): \_\_\_\_\_ ≤0,21 -part 3

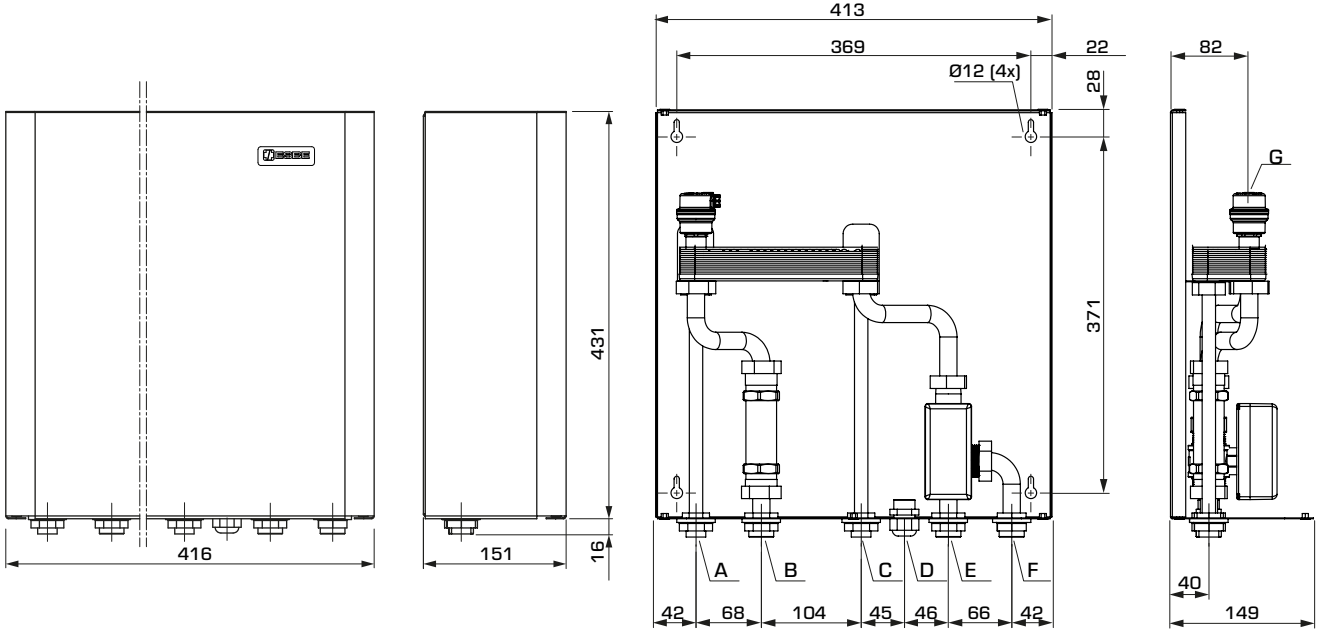
**WIRING** - please see Installation instruction

# SEPARATION UNIT SERIES SKx100

Connections,

- A - Potable hot water outlet \_\_\_\_\_ G 1/2"
- B - Supply, primary side \_\_\_\_\_ G 3/4"
- C - Potable water inlet \_\_\_\_\_ G 1/2"
- D - Cable leading
- E - Return, primary side \_\_\_\_\_ G 3/4"
- F - Heating receiver outlet \_\_\_\_\_ G 3/4"
- G - Air vent valve (1x)

## PRODUCT ASSORTMENT



## SERIES SKS100

Art. No.	Reference	Connections Heating B, E, F	Connections PHW A, C	PHW	Weight [kg]	Note
62001100	SKS101	G 3/4"	G 1/2"	12 l/min	8,0	

## TECHNICAL DATA

Visit [esbe.eu](http://esbe.eu) for further detailed information.

### Separation unit SKS100, in general:

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +90°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Max. Working pressure - primary: \_\_\_\_\_ 0,6 MPa (6 bar)  
 - secondary: \_\_\_\_\_ 1,0 Mpa (10 bar)  
 Plate heat exchanger (PHW): \_\_\_\_\_ 20 kW  
 Potable hot water capacity: \_\_\_\_\_ 12 l/min  
 Potable hot water temperature: \_\_\_\_\_ +45°C  
 (at 12l/min and cold water 15°C)

Connections, \_\_\_\_\_ External thread (G), ISO 228/1  
 Media,  
 Primary side: \_\_\_\_\_ Heating water, in accordance with VDI2035  
 Secondary side: \_\_\_\_\_ Potable water

### Conformities and certificates

LVD 2014/35/EU  
 EMC 2014/30/EU  
 RoHS3 2015/863/EU SI 2016 No. 1101  
 SI 2016 No. 1091  
 SI 2012 No. 3032

PED 2014/68/EU, article 4.3 / SI 2016 No. 1105 (UK)

### The integrated diverting valve, SKS100:

Valve reference: \_\_\_\_\_ 3VNTB-2520 + GRSF-4V  
 Pressure class: \_\_\_\_\_ PN 16  
 Differential pressure: \_\_\_\_\_ ΔP 5 bar  
 Control signal: \_\_\_\_\_ 3-point SPDT  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Power consumption,  
 during operation: \_\_\_\_\_ 4,1 W  
 at closed position (end of stroke): \_\_\_\_\_ 0 W

Running time 90°: \_\_\_\_\_ 30 s  
 Enclosure rating: \_\_\_\_\_ IP41

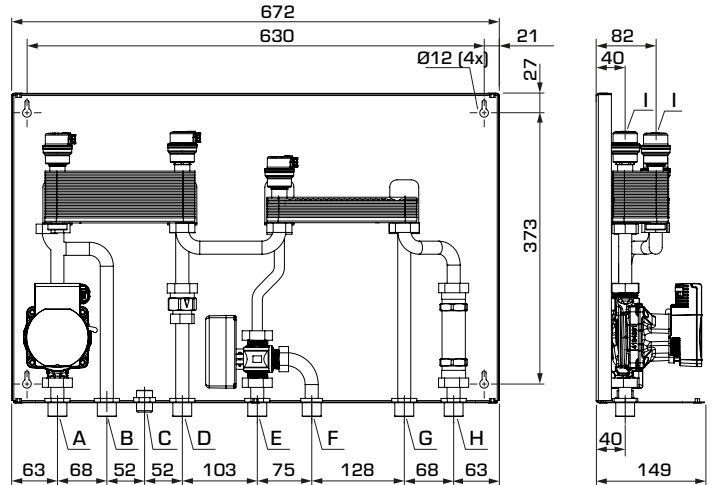
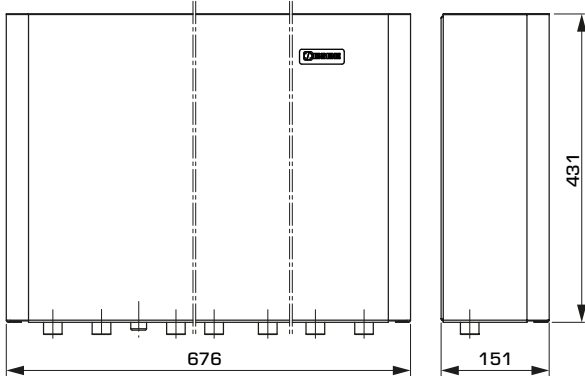
**WIRING** - please see Installation instruction

# SEPARATION UNIT SERIES SKx100

## PRODUCT ASSORTMENT

Connections,

- A - Return, secondary side \_\_\_\_\_ G 3/4"
- B - Return, primary side \_\_\_\_\_ G 3/4"
- C - Cable leading
- D - Heating receiver outlet \_\_\_\_\_ G 3/4"
- E - Potable hot water supply to the  
gas/oil heat generator: \_\_\_\_\_ G 1/2"
- F - Potable water inlet \_\_\_\_\_ G 1/2"
- G - Potable hot water outlet \_\_\_\_\_ G 1/2"
- H - Supply, primary side \_\_\_\_\_ G 3/4"
- I - Air vent valve (3x)



SKC111

## SERIES SKC100

Art. No.	Reference	Pump	Connections Heating A, B, D, H	Connections PHW E, F, G	PHW	Weight [kg]
62002100	SKC111	Wilo Para 15/8-75	G 3/4"	G 1/2"	12 l/min	14,7

## TECHNICAL DATA

Visit [esbe.eu](http://esbe.eu) for further detailed information.

### Separation unit SKC100, in general:

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +90°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Max. Working pressure - primary: \_\_\_\_\_ 0,6 MPa (6 bar)  
 - secondary: \_\_\_\_\_ 1,0 Mpa (10 bar)  
 Plate heat exchanger, heating: \_\_\_\_\_ 30 kW  
 PHW: \_\_\_\_\_ 20 kW  
 Potable hot water capacity: \_\_\_\_\_ 12 l/min  
 Potable hot water temperature: \_\_\_\_\_ +45°C  
 (at 12l/min and cold water 15°C)

Connections, \_\_\_\_\_ External thread (G), ISO 228/1  
 Media,  
 Primary side: \_\_\_\_\_ Heating water, in accordance with VDI2035  
 Secondary side: \_\_\_\_\_ Potable water

### Conformities and certificates

LVD 2014/35/EU SI 2016 No. 1101  
 EMC 2014/30/EU SI 2016 No. 1091  
 RoHS3 2015/863/EU SI 2012 No. 3032  
 ErP 2009/125/EU SI 2010 No. 2617

PED 2014/68/EU, article 4.3 / SI 2016 No. 1105 (UK)

### The integrated diverting valve, SKC100:

Valve reference: \_\_\_\_\_ 3STMA20 + RSF-4V  
 Pressure class: \_\_\_\_\_ PN 16  
 Differential pressure: \_\_\_\_\_ ΔP 5 bar)  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Running time 90°: \_\_\_\_\_ 30 s

Power consumption,  
 during operation: \_\_\_\_\_ 4,1 W  
 at closed position (end of stroke): \_\_\_\_\_ 0 W  
 Enclosure rating: \_\_\_\_\_ IP41

**WIRING** - please see Installation instruction

### The integrated circulation pump, SKC100:

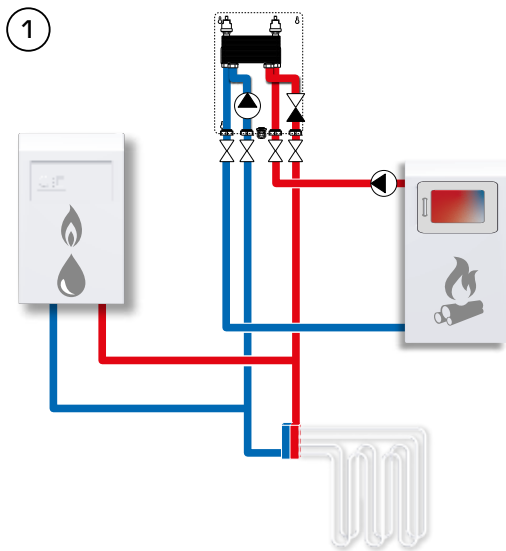
Pump reference: \_\_\_\_\_ Wilo PARA 15-130/8-75/SC  
 Pressure class: \_\_\_\_\_ PN 10  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Power consumption: \_\_\_\_\_ 10-75 W

Enclosure rating: \_\_\_\_\_ IP X4D  
 Insulation class: \_\_\_\_\_ F  
 EEI (Energy Efficiency Index): \_\_\_\_\_ ≤0,21 - part 3

**WIRING** - please see Installation instruction

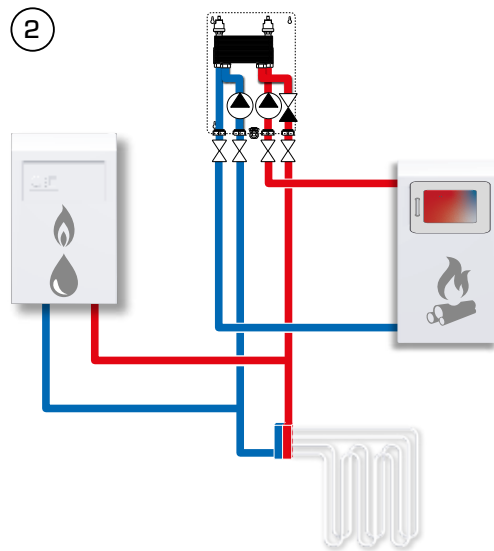
# SEPARATION UNIT SERIES SKx100

## INSTALLATION EXAMPLES



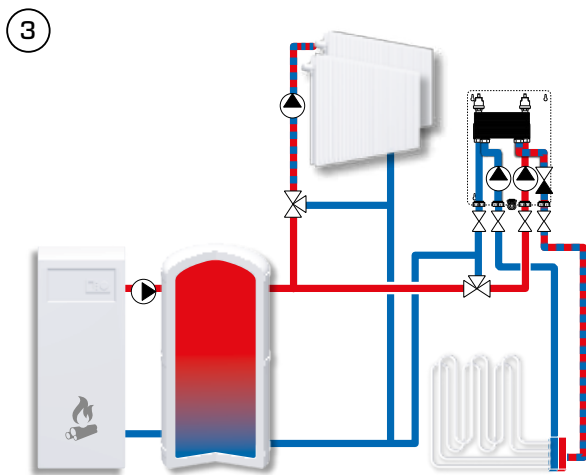
### SKP100

SKP100 with two heating devices (gas boiler and water fireplace). The SKP100 provides the hydraulic system separation. The Water fireplace has its own circulation pump.



### SKP100 with additional pump (available as accessory)

SKP100 with two heating devices (gas boiler and water fireplace). The SKP100 provides the hydraulic system separation and has been equipped with an additional pump since the Water fireplace doesn't include one.



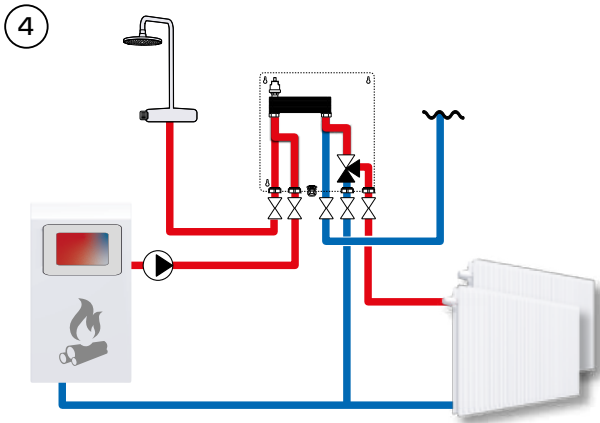
### SKP100 with additional pump (available as accessory)

SKP100 is used as a heating system separation for underfloor heating and has been equipped with an additional pump to receive water from the tank.

*The shown applications are only examples of product use!  
Before using the product in any application, the regional and national regulations need to be checked.*

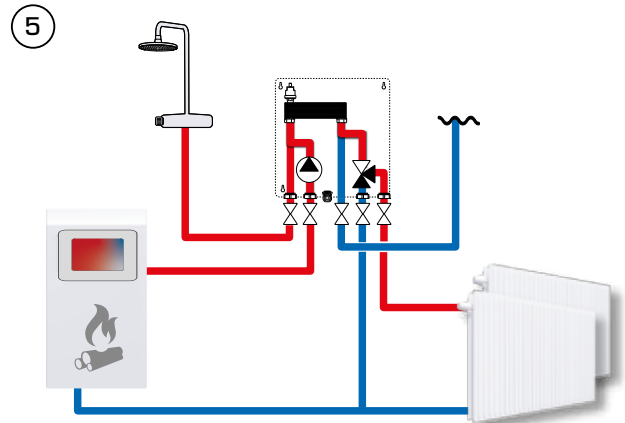
# SEPARATION UNIT SERIES SKx100

## INSTALLATION EXAMPLES



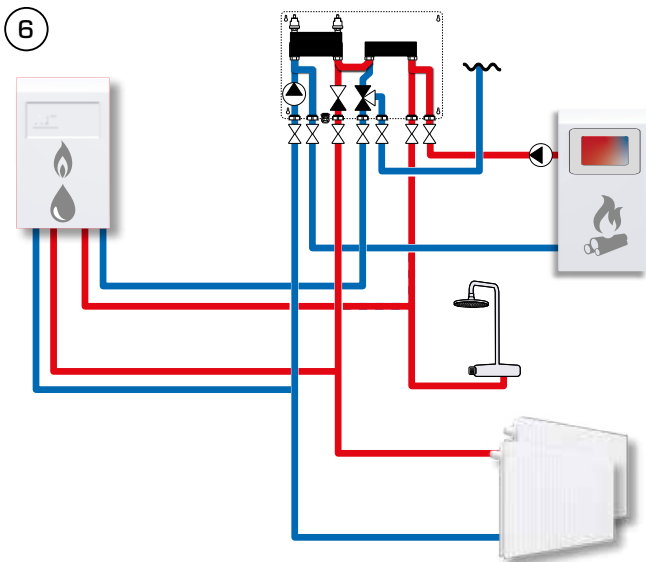
### SKS100

The SKS100 provides hot water from the solid fuel boiler. The boiler has its own pump.



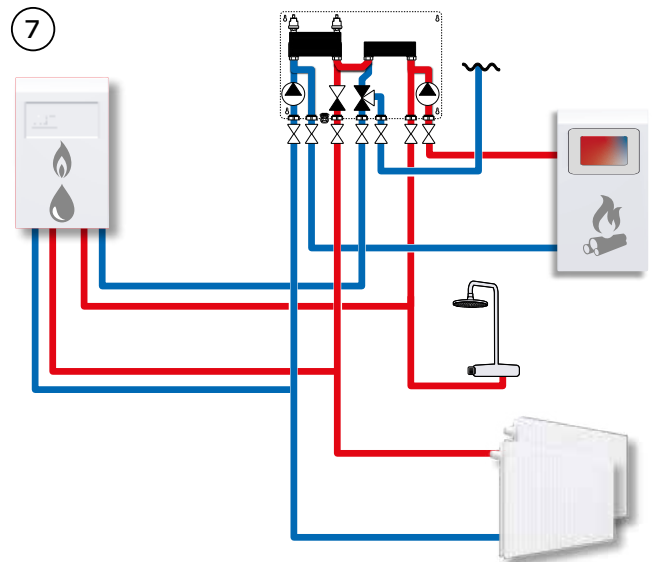
### SKS100 with additional pump (available as accessory)

The SKS100 provides hot water from the solid fuel boiler. The unit is equipped with an additional pump since the heating source doesn't include one.



### SKC100

SKC100 provides the heat and potable hot water from two heating devices (gas boiler and water fireplace) thru hydraulic system separation. The Water fireplace has its own circulation pump.



### SKC100 with additional pump (available as accessory)

SKC100 provides the heat and potable hot water from two heating devices (gas boiler and water fireplace) thru hydraulic system separation. The unit has an additional circulation pump since the heating water fireplace doesn't include one.

*The shown applications are only examples of product use!  
Before using the product in any application, the regional and national regulations need to be checked.*